

## REMARKS/ARGUMENTS

After entry of this paper, the pending claims are 10-26. Claims 1-9 are canceled, without prejudice, as being drawn to non-elected subject matter. Claim 10 was amended to clarify the invention. Claims 23-26 are supported throughout the original specification and claims as filed. No new matter is added by this amendments and new claims.

### **Restriction Requirement**

*The Examiner asserted that affirmation of the election of the claims of Group II was required.*

In response to the outstanding restriction requirement, Applicant affirms the election of the claims of Group II, i.e., claims 10-22 drawn to an article, without prejudice. Applicant reserves the right to prosecute the non-elected and canceled claims and subject matter in a divisional filed during the pendency of the present application.

### **Double Patenting Rejection**

*Claims 10-12, 15, 18, and 20-21 are rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-6 of US Patent No. 6,649,235.*

*The Examiner asserted that the claims of the present application are not patentably distinct from the claims of US Patent No. 6,649,235.*

Applicant respectfully requests reconsideration and withdrawal of this rejection for the following reason.

As the Examiner is aware, in the above-presented restriction requirement, the Examiner indicated that the process claims and product claims of the present application were distinct for the reasons provided on page 2, point 2 of the Action. The Examiner specifically noted that "...the article can be made with an extra step of providing an inert atmosphere during treatment of the maleic anhydride surface of the polymeric substrate." In view of this statement, Applicant asserts that the article claims subject to this rejection are distinct from the claims of '235 since the same can be prepared by another method. Elected claims 10-23 and newly added claims 24-26

which properly fall under the election should not be subject to the present double patenting rejection.

Reconsideration of this rejection is requested.

### **Applicant's Invention**

Applicant's invention provides a coated article having a modified maleic anhydride surface on one side and a polyolefin surface on the other side. It is a requirement of Applicant's invention that the substrate be co-extruded so that the polyolefin is directly and, without the use of an adhesive bond, to the maleic anhydride modified polyolefin. The substrate further includes a polysilicate coating on the maleic anhydride modified layer. The articles prepared according to the present invention have superior barrier properties as compared to articles in the art.

The inventors surprisingly discovered that the combination of the polysilicate barrier coating and the modification of the maleic anhydride surface imparted improved barrier properties to the substrate. This is supported in Example 4 in which the oxygen transmission of the article produced according to the present invention was far superior to the results in comparative Examples 1-3.

### **35 USC § 102 and 103(a) Rejection**

*Claim 10 is rejected under 35 USC § 102(b) or 35 USC § 103(a) over Jialanella et al. (US Patent No. 5,471,594) as evidenced by Alger (Polymer Science Dictionary, 2<sup>nd</sup> Ed.).*

Applicant respectfully request reconsideration and withdrawal of this rejection for the following reason.

The combination of Jialanella and Alger fails to suggest a product which lacks an adhesion promoter. Jialanella provides a laminate containing a first substrate of a substantially linear olefin copolymer and a second substrate attached to the first substrate *through an adhesion promoter*. A maleic anhydride grafted polyolefin is a preferred adhesion promoter of Jialanella and is present between the first and second substrates (col. 3, line 59 through col. 4, line 15). As noted by the Examiner, the second substrate can be glass (col. 5, lines 42-45) and is *adhesively* bound to the polyolefin. Jialanella does not teach or suggest an article having one layer of a *co-extruded* maleic anhydride modified polyolefin/polyolefin substrate. Instead,

Jialanella requires that the linear copolymer is adhesively attached to the maleic anhydride grafted polyolefin adhesive.

As the Examiner is aware and as known in the art, an adhesive is typically applied to a surface and is bound thereto by mechanical or electrostatic forces. To support this definition, Applicant has enclosed a copy of selected sections from "Polymer Science Dictionary" which is a reference utilized in the art and provides a widely accepted definition for this term. Clearly, the laminate of Jialanella differs substantially from Applicant's article in the binding of the polyolefin and maleic anhydride polyolefin layers.

Alger generally teaches silicate polymers, but does not teach or suggest that the same can be applied to any surfaces including a modified maleic anhydride surface. Nor does Alger add anything to Jialanella to teach or suggest coating a co-extruded modified maleic anhydride/polyolefin substrate with a polysilicate. In fact, since Alger teaches nothing about the use of the silicate polymers as coatings, one of skill in the art would certainly not have been motivated to use the same in Jialanella. Only Applicant's specification provides that motivation. One of skill in the art would also not be able to predict that the polysilicates discussed in Alger would provide any barrier properties to the substrates of Jialanella, let alone the superior barrier properties provided by the articles of Applicant's invention.

In view thereof, the adhesively bound articles prepared by Jialanella alone differ from the co-extruded articles prepared by Applicant. Further, no combination of Jialanella with Alger suggests the present invention.

Reconsideration of this rejection is requested.

### 35 USC § 103(a) Rejections

- (i) *Claims 10 and 13-22 are rejected under 35 USC § 103(a) over Hubbard et al. (US Patent No. 5,882,798) in view of Adur et al. (US Patent No. 4,957,968).*

Applicant respectfully request reconsideration and withdrawal of this rejection for the following reason.

The combination of Hubbard and Adur do not suggest the present invention which provides a substrate without an adhesive layer. Hubbard teaches a

polymeric substrate having (a) a polymeric substrate have a primer first surface and polyolefin second surface and (b) a polysilicate coating on the primer layer. Hubbard does not teach or suggest a modified maleic anhydride polyolefin or that the substrate is formed by co-extrusion whereby one side of the substrate includes a modified maleic anhydride polyolefin surface and the other side includes a polyolefin surface.

Adur teaches adhesive olefinic thermoplastic blend compositions formed by premixing its components, and optionally, co-extruding. By doing so, a substrate is formed whereby the components are dispersed therethrough. Adur does not teach or suggest a co-extruded polymeric substrate having a first surface of a maleic anhydride layer and a second surface of a polyolefin layer. In fact, Adur teaches away from the instant invention since the co-extrusion of the blend composition of Adur would result in a substrate having an anhydride modified polyolefin dispersed therethrough.

On page 6, paragraph 7 of the Action, the Examiner states that:

“Adur teaches that surfaces of polyolefins such as polypropylene require a proper *primer* to adhere to glass surfaces...” and

“...it would have been obvious...to use the maleic anhydride modified *polypropylene layer of Adur as the primer layer* of Hubbard in order to obtain a co-extruded polypropylene/primer bilayer...with good adhesion to the polysilicate coating”. (emphasis added)

Applicant respectfully disagrees with the Examiner on these points. As the Examiner is aware and as is known in the art, a primer layer is affixed to the surface of a substrate to prepare a surface for receipt of an adhesive, thereby forming a substrate with layers. See the attached definition for “primer” and “adhesive”. Further, as discussed above, an adhesive is applied to a surface and is bound thereto by mechanical or electrostatic forces. Clearly, the term “primer” cannot be interchanged with the term “adhesive”. Therefore, one would not have been motivated to combine the adhesive technology discussed by Adur with the primer technology provided by Hubbard.

Further, if one of skill in the art were to combine Hubbard with Adur, the result would not be a substrate with distinct layers obtained by co-extrusion. That is a requirement of Applicant's invention.

Reconsideration of this rejection is requested.

(ii) *Claims 11-12 are rejected under 35 USC § 103(a) over Hubbard et al. in view of Adur and further in view of Jones (US Patent No. 3,442,686).*

Applicant respectfully request reconsideration and withdrawal of this rejection for the following reason.

The cited combination does not suggest a co-extruded polymeric substrate consisting of a first surface of a maleic anhydride modified polyolefin layer and a second surface of a selected polyolefin layer. Hubbard and Adur are discussed above and do not together suggest the present invention. Since Jones does not teach or suggest (i) a co-extruded polymeric substrate having a modified maleic anhydride surface on one side and a polyolefinic surface on the other side or (ii) application of polysilicate barrier coating to a treated, modified maleic anhydride surface to give an article having improved oxygen barrier properties, Jones does not add anything to Hubbard or Adur that would teach or suggest the instant invention. In fact, the only point that Jones adds to Hubbard and Adur is the use of a nitrocellulose topcoat.

Reconsideration of this rejection is requested.

The Director is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment in any fees to our Deposit Account Number 08-3040.

Respectfully submitted,

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